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     (FILE 'HOME' ENTERED AT 16:02:39 ON 08 FEB 2007)

     FILE 'HCAPLUS' ENTERED AT 16:02:59 ON 08 FEB 2007
                E WANG LIAOTENG/AU
L1              7 SEA ABB=ON  "WANG LIAOTENG"/AU
L*** DEL   28348 S E 1
L2              2 SEA ABB=ON  "WANG LIAO TENG"/AU
L3              9 SEA ABB=ON  L1 OR L2
                E WICKENS MARVIN P/AU
L4             91 SEA ABB=ON  ("WICKENS MARVIN"/AU OR "WICKENS MARVIN P"/AU OR
                "WICKENS MARVIN PETE"/AU)
                E KIMBLE JUDITH E/AU
L5             98 SEA ABB=ON  ("KIMBLE JUDITH"/AU OR "KIMBLE JUDITH E"/AU)
L6              5 SEA ABB=ON  L3 AND L4 AND L5
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                D IBIB ABS IND L6 1-5


     FILE HOME

     FILE HCAPLUS

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=> d ibib abs ind l6 1-5

L6 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1019629 HCAPLUS Full-text
DOCUMENT NUMBER: 142:2721
TITLE: Regulatory poly(A) polymerase (rPAP) comprising both a catalytic subunit and an RNA-binding subunit and uses thereof
INVENTOR(S): **Wang, Liaoteng; Wickens, Marvin P. ; Kimble, Judith E.**
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 39 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2004235001	A1	20041125	US 2003-665797		20030918
PRIORITY APPLN. INFO.:			US 2002-411685P	P	20020918

AB An isolated preparation of a regulatory poly(A) polymerase (PAP), wherein the polymerase comprises both a catalytic subunit and an RNA-binding subunit is disclosed.

IC ICM C12Q001-68
ICS C07H021-04; C12P019-34; C12N009-22
INCL 435006000; 435069100; 435091200; 435199000; 435320100; 435325000; 536023200
CC 7-2 (Enzymes)
Section cross-reference(s): 3, 10, 13
ST regulatory polyA polymerase rPAP human yeast mouse
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(GLD-2; regulatory poly(A) polymerase (rPAP) comprising both catalytic subunit and RNA-binding subunit and uses thereof)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(GLD-3; regulatory poly(A) polymerase (rPAP) comprising both catalytic subunit and RNA-binding subunit and uses thereof)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(TRF-5; regulatory poly(A) polymerase (rPAP) comprising both catalytic subunit and RNA-binding subunit and uses thereof)
IT Human
Molecular cloning
Mus musculus
Protein engineering
Yeast
(regulatory poly(A) polymerase (rPAP) comprising both catalytic subunit and RNA-binding subunit and uses thereof)
IT mRNA
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(regulatory poly(A) polymerase (rPAP) comprising both catalytic subunit and RNA-binding subunit and uses thereof)
IT 262980-25-6, GenBank AAF48114 263509-05-3, GenBank AAF55959
358405-67-1, GenBank BAB21802 479190-59-5, GenBank AAM94369
480961-66-8, GenBank BAA91641 481277-13-8, GenBank BAC04629

483720-09-8, GenBank AAH23880 487233-70-5, GenBank BAB89569
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(regulatory poly(A) polymerase (rPAP) comprising both a catalytic subunit and an RNA-binding subunit and uses thereof)

IT 9055-67-8P
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(regulatory poly(A) polymerase (rPAP) comprising both catalytic subunit and RNA-binding subunit and uses thereof)

IT 58-61-7, Adenosine, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(regulatory poly(A) polymerase (rPAP) comprising both catalytic subunit and RNA-binding subunit and uses thereof)

IT 798314-15-5 798314-16-6 798314-17-7 798314-18-8 798314-19-9
798314-20-2 798314-21-3 798314-22-4 798314-23-5 798314-24-6
798314-25-7 798314-26-8
RL: PRP (Properties)
(unclaimed protein sequence; regulatory poly(A) polymerase (rPAP) comprising both a catalytic subunit and an RNA-binding subunit and uses thereof)

L6 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:743040 HCAPLUS Full-text
DOCUMENT NUMBER: 142:35326
TITLE: Tissue-specific modification of gld-2 mRNA in C. elegans: Likely C-to-U editing
AUTHOR(S): **Wang, Liaoteng; Kimble, Judith; Wickens, Marvin**
CORPORATE SOURCE: Department of Biochemistry, University of Wisconsin-Madison, Madison, WI, 53706, USA
SOURCE: RNA (2004), 10(9), 1444-1448
CODEN: RNARFU; ISSN: 1355-8382
PUBLISHER: Cold Spring Harbor Laboratory Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Seventeen years after the discovery of tissue-specific apoB mRNA editing, only three nucleus-encoded mRNAs have been shown to undergo C-to-U editing. All three mRNAs occur in mammals. ApoB mRNA editing is tissue-specific and occurs normally, whereas NF1 and NAT1 mRNA editing is found largely in tumors. Here the authors report the first example of C-to-U RNA editing in Caenorhabditis elegans. The gld-2 gene encodes an atypical poly(A) polymerase that governs the mitosis/meiosis decision in the germ line as well as progression through meiosis and early embryogenesis. At least two of its alternatively spliced transcripts are germline-specific. The authors find that most and perhaps all germline-specific transcripts generated by the gld-2 gene undergo C-to-U editing, but that somatic transcripts show no detectable editing. The gld-2 C-to-U editing event changes the codon from CCG to CUG, which is predicted to cause a proline to leucine substitution in the protein sequence. The findings suggest the presence of a sequence- and tissue-specific cytidine deaminase acting on RNA, or CDAR. This CDAR modifies a specific base in gld-2 mRNA, and acts only in the germline.

CC 12-2 (Nonmammalian Biochemistry)
Section cross-reference(s): 3, 6

ST gld2 gene mRNA editing Caenorhabditis germline

IT Caenorhabditis elegans
RNA editing
(germline-specific C-to-U RNA editing of alternatively spliced transcripts generated by gld-2 gene encoding poly(A) polymerase in Caenorhabditis elegans)

IT mRNA
RL: BSU (Biological study, unclassified); BIOL (Biological study) (germline-specific C-to-U RNA editing of alternatively spliced transcripts generated by gld-2 gene encoding poly(A) polymerase in Caenorhabditis elegans)
IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study) (gld-2; germline-specific C-to-U RNA editing of alternatively spliced transcripts generated by gld-2 gene encoding poly(A) polymerase in Caenorhabditis elegans)
IT RNA splicing
(messenger, alternative; germline-specific C-to-U RNA editing of alternatively spliced transcripts generated by gld-2 gene encoding poly(A) polymerase in Caenorhabditis elegans)
IT 9026-30-6, Poly(A) polymerase
RL: BSU (Biological study, unclassified); BIOL (Biological study) (germline-specific C-to-U RNA editing of alternatively spliced transcripts generated by gld-2 gene encoding poly(A) polymerase in Caenorhabditis elegans)
IT 9025-06-3, Cytidine deaminase
RL: BSU (Biological study, unclassified); BIOL (Biological study) (in germline-specific C-to-U RNA editing of alternatively spliced transcripts generated by gld-2 gene encoding poly(A) polymerase in Caenorhabditis elegans)
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:316087 HCAPLUS Full-text
DOCUMENT NUMBER: 141:3144
TITLE: Mammalian GLD-2 homologs are poly(A) polymerases
AUTHOR(S): Kwak, Jae Eun; **Wang, Liaoteng**; Ballantyne, Scott; **Kimble, Judith**; **Wickens, Marvin**
CORPORATE SOURCE: Department of Biochemistry, University of Wisconsin, Madison, WI, 53706-1544, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2004), 101(13), 4407-4412
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
AB GLD-2 is a cytoplasmic poly(A) polymerase present in the Caenorhabditis elegans germ line and embryo. It is a divergent member of the DNA polymerase β nucleotidyl transferase superfamily, which includes CCA-adding enzymes, DNA polymerases and eukaryotic nuclear poly(A) polymerases. The polyadenylation activity of GLD-2 is stimulated by phys. interaction with an RNA binding protein, GLD-3. To test whether GLD-3 might stimulate GLD-2 by recruiting it to RNA, we tethered C. elegans GLD-2 to mRNAs in Xenopus oocytes by using MS2 coat protein. Tethered GLD-2 adds poly(A) and stimulates translation of the mRNA, demonstrating that recruitment is sufficient to stimulate polyadenylation activity. We use the same tethered assay to identify human and mouse poly(A) polymerases related to GLD-2. This may provide entrees to previously uncharacterized modes of polyadenylation in mammalian cells.
CC 7-1 (Enzymes)
ST GLD2 polyadenylate polymerase assay; Caenorhabditis polyadenylate polymerase GLD2 assay; mammal GLD2 polyadenylate polymerase assay
IT Fusion proteins (chimeric proteins)
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(GLD-2 homolog fusion with MS2 coat protein; recruitment of poly(A) polymerase GLD-2 to RNA by fusion to MS2 coat protein and use as an assay for identification of GLD-2-like poly(A) polymerases)

IT Arabidopsis thaliana
Bos taurus
Human
Mus
(GLD-2 homologs; recruitment of poly(A) polymerase GLD-2 to RNA by fusion to MS2 coat protein and use as an assay for identification of GLD-2-like poly(A) polymerases)

IT Caenorhabditis elegans
(GLD-2; recruitment of poly(A) polymerase GLD-2 to RNA by fusion to MS2 coat protein and use as an assay for identification of GLD-2-like poly(A) polymerases)

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(RNA-binding, GLD-3; recruitment of poly(A) polymerase GLD-2 to RNA by fusion to MS2 coat protein and use as an assay for identification of GLD-2-like poly(A) polymerases)

IT Proteins
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(coat, fusion protein with GLD-2 homologs; recruitment of poly(A) polymerase GLD-2 to RNA by fusion to MS2 coat protein and use as an assay for identification of GLD-2-like poly(A) polymerases)

IT mRNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(poly(A)-containing; recruitment of poly(A) polymerase GLD-2 to RNA by fusion to MS2 coat protein and use as an assay for identification of GLD-2-like poly(A) polymerases)

IT Post-transcriptional processing
(polyadenylation; recruitment of poly(A) polymerase GLD-2 to RNA by fusion to MS2 coat protein and use as an assay for identification of GLD-2-like poly(A) polymerases)

IT Translation, genetic
(stimulation by GLD-2; recruitment of poly(A) polymerase GLD-2 to RNA by fusion to MS2 coat protein and use as an assay for identification of GLD-2-like poly(A) polymerases)

IT 9026-30-6, Poly(A) polymerase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(GLD-2; recruitment of poly(A) polymerase GLD-2 to RNA by fusion to MS2 coat protein and use as an assay for identification of GLD-2-like poly(A) polymerases)

REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:864736 HCAPLUS Full-text
DOCUMENT NUMBER: 139:335516
TITLE: Regulation of the mitosis/meiosis decision in the Caenorhabditis elegans germline
AUTHOR(S): Crittenden, Sarah L.; Eckmann, Christian R.; **Wang, Liaoteng**; Bernstein, David S.; **Wickens, Marvin**; **Kimble, Judith**
CORPORATE SOURCE: Howard Hughes Medical Institute, University of Wisconsin-Madison, Madison, WI, 53706, USA
SOURCE: Philosophical Transactions of the Royal Society of London, Series B: Biological Sciences (2003), 358(1436), 1359-1362
CODEN: PTRBAE; ISSN: 0962-8436

PUBLISHER: Royal Society
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review. During the development of multicellular organisms, the processes of growth and differentiation are kept in balance to generate and maintain tissues and organs of the correct size, shape, and cellular composition We have investigated the mol. controls of growth and differentiation in the C. elegans germline. A single somatic cell, called the distal tip cell, promotes mitotic proliferation in the adjacent germline by GLP-1/Notch signaling. Within the germline, the decisions between mitosis and meiosis and between spermatogenesis and oogenesis are controlled by a group of conserved RNA regulators. FBF, a member of the PUF (for Pumilio and FBF) family of RNA-binding proteins, promotes mitosis by repressing gld-1 mRNA activity; the GLD-1, GLD-2, GLD-3, and NOS-3 proteins promote entry into meiosis by regulating mRNAs that remain unknown. The regulatory balance between opposing FBF and GLD activities is crucial for controlling the extent of germline proliferation. PUF proteins regulate germline stem cells in both Drosophila and C. elegans and are localized to germline stem cells of the mammalian testis. Therefore, this post-transcriptional regulatory switch may be an ancient mechanism for controlling maintenance of stem cells vs. differentiation.

CC 12-0 (Nonmammalian Biochemistry)
ST review nematode germ cell mitosis meiosis decision
IT Caenorhabditis elegans
Gamete and Germ cell
Meiosis
Mitosis
Oogenesis
Spermatogenesis
(regulation of mitosis/meiosis decision in nematode germline)
REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:710318 HCAPLUS Full-text
DOCUMENT NUMBER: 138:216067
TITLE: A regulatory cytoplasmic poly(A) polymerase in Caenorhabditis elegans
AUTHOR(S): **Wang, Liaoteng**; Eckmann, Christian R.; Kadyk, Lisa C.; **Wickens, Marvin**; **Kimble, Judith**
CORPORATE SOURCE: Department of Biochemistry, University of Wisconsin-Madison, Madison, WI, 53706, USA
SOURCE: Nature (London, United Kingdom) (2002), 419(6904), 312-316
CODEN: NATUAS; ISSN: 0028-0836
PUBLISHER: Nature Publishing Group
DOCUMENT TYPE: Journal
LANGUAGE: English

AB MRNA regulation is a critical mode of controlling gene expression. Regulation of mRNA stability and translation is linked to controls of poly(A) tail length. Poly(A) lengthening can stabilize and translationally activate mRNAs, whereas poly(A) removal can trigger degradation and translational repression. Germline granules (for example, polar granules in flies, P granules in worms) are ribonucleoprotein particles implicated in translational control. Here we report that the Caenorhabditis elegans gene gld-2, a regulator of mitosis/meiosis decision and other germline events, encodes the catalytic moiety of a cytoplasmic poly(A) polymerase (PAP) that is associated with P granules in early embryos. Importantly, the GLD-2 protein sequence has diverged substantially from that of conventional eukaryotic PAPs, and lacks a

recognizable RRM (RNA recognition motif)-like domain. GLD-2 has little PAP activity on its own, but is stimulated in vitro by GLD-3. GLD-3 is also a developmental regulator, and belongs to the Bicaudal-C family of RNA binding proteins. We suggest that GLD-2 is the prototype for a class of regulatory cytoplasmic PAPs that are recruited to specific mRNAs by a binding partner, thereby targeting those mRNAs for polyadenylation and increased expression.

CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 7, 12

ST cDNA sequence polyA polymerase Caenorhabditis; Caenorhabditis development gene gld2 gld3 cytoplasmic polyA polymerase

IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(GLD-3, required for poly(A) polymerase activity of GLD-2; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT Organelle
(P granule, localization of GLD-2; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT Caenorhabditis elegans
Development, nonmammalian postembryonic
Embryo, animal
Larva
Protein sequences
cDNA sequences
(cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT Embryo, animal
(embryogenesis, dependence on gld-2 expression; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT Genetic element
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(exon, structure of gld-2 gene; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT mRNA
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(for GLD-2; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT Oogenesis
Spermatogenesis
(gld-2 expression; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT Gene, animal
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(gld-2; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT Genetic element
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(intron, structure of gld-2 gene; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT Molecular association
(of GLD-2 with GLD-3; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT Egg
(oocyte, gld-2 expression; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT 479190-59-5
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT 9026-30-6, Poly(A) polymerase
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(gene gld-2; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

IT 457517-48-5, GenBank AY125085
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence; cDNA sequence, developmental expression, and activity of a regulatory cytoplasmic poly(A) polymerase (GLD-2) in Caenorhabditis elegans)

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